

ANNUAL REPORT

OF THE

PRESIDENT AND MANAGERS

OF

**THE UNION CANAL COMPANY  
OF PENNSYLVANIA,**

TO

**THE STOCKHOLDERS.**

November 21, 1826.

---

*PHILADELPHIA:*

PRINTED BY LYDIA R. BAILEY,

NO. 10, NORTH ALLEY.

1826.

Handwritten signature or initials in the top left corner.



## REPORT.

---

*At the Annual Meeting of the Stockholders of the Union Canal Company of Pennsylvania, held on the 21st of November, 1826, the following Report was presented by the President and Managers:—*

THE period having arrived, when the Board of the Union Canal Company are required to make their annual statement, it is with peculiar gratification, they feel themselves warranted in saying, that every part of the work is so near completion, that they look forward with confidence, to the commencement of the trade, between the extensive waters of the Susquehanna and Philadelphia, at an early period in the ensuing spring.

The chief points, which are yet unfinished, are,

- 1st. The portion of the work which is below Reading on the Schuylkill, where a small aqueduct over Angelica creek is to be constructed.
- 2d. The tunnel on the summit near Lebanon.
- 3d. The machinery for raising the waters of the Swatara, as an additional supply for the summit.
- 4th. The 33d section, west of the summit, where a dam is commenced on the Swatara, for the purpose of creating a feeder for the main canal.

5th. The vicinity of Hummelstown, where some heavy embankments, and some rock excavation, remain to be made.

6th. The section which is to connect the canal with the great basin of the State Canal, near the junction of the Swatara with the Susquehanna.

All the obstacles which remain, except the tunnel, it is confidently believed, will be overcome in the month of January, and would now have been surmounted, had not an unusual degree of sickness prevailed in the districts where the contractors are at work.

With regard to the tunnel, it must be confessed, that unforeseen difficulties have presented themselves. The materials through which it passes, are the argillaceous slate, with veins of uncommonly hard flinty limestone, passing at an angle of about eighty degrees of the horizon, and nearly at right angles with the line of excavation. The slate is excavated with much facility; but a great difficulty is experienced in passing through the limestone: and thus, the period of completion must depend upon the greater or smaller quantity of the latter substance. Judging from experience, the Board look forward with confidence to the passage being opened in March, or April; and from the fidelity and perseverance of the contractors, they expect every thing which industry and skill can accomplish.

Since the period when the services of Canvass White Esq., and his assistant engineers, were first procured, which is little more than three years, eighty-five miles of excavation, with substantial tow-paths, have been made, and much of the excavation is through solid rock: a tunnel, surpassing in size, difficulty, and expense, any in our

country, has been more than two-thirds completed: two reservoirs upon the summit level, containing twelve millions of cubic feet of water, have been constructed; and also a feeder is nearly finished, from the machinery on the Swatara, four miles and twenty-six poles in length, and planked throughout: the machinery which is to aid in supplying the summit with water, for the most extensive trade, is in rapid progress towards completion: a number of lock-keepers' houses have been built: a dam across the Schuylkill, near Reading, which gives a fine harbour to that town, and another dam across the Swatara, at the head of the great feeder, have been constructed: forty-three waste weirs, forty-nine culverts, one hundred and thirty-five bridges, and twelve aqueducts, are entirely finished; and the aqueducts over the Swatara, one of which is two hundred and seventy-six feet in length, and the other one hundred and seventy-five feet, for beauty and solidity, are just objects of admiration: solid protecting stone walls have been constructed, to an extent of fourteen miles, in situations where the pressure of contiguous streams is great in freshets; and to all that is above enumerated, may be added two guard locks of wood, and ninety-two locks formed of cut stone, and principally cemented with Pennsylvania water lime, the beauty and workmanship of all which, it may be alleged, are unrivalled in the United States, and in number surpassing those upon the whole of the great Erie Canal of New-York.

The whole length of the main canal, measured from the towing path, constructed by the Union Canal Company, in the Schuylkill works near the head of the Girard Canal, five miles below Reading, to the great basin of



the State Canal on the Susquehanna, is eighty-two miles, six chains; and the length of the navigable feeder on the Swatara, in a direction towards the coal mines, is seven miles, forty chains; and the whole feeder is now filled with water, and will pass boats of the same capacity as the main canal. In relation to the locks, it may be observed, from the simplicity of their construction, an average time of not more than five or six minutes will be consumed in the passage through each. The delay arising from the lockage, or rise and fall upon the entire route of the canal, will be about eight or nine hours, and the whole time required to pass a boat of burthen, from the Susquehanna to Reading, even at the slow rate of two and an half miles an hour, will be about forty hours.

It may be proper to state, that during the session of last winter, an extension of the works from the head of the navigable feeder into the rich coal region of the Swatara, by means of a canal and railways, was authorized by the legislature; subject, however, to the approbation of the stockholders. An examination of the country is now making, by Alonzo Livermore, one of the assistant engineers, the result of which will in due time be submitted for consideration.

The economy which has been introduced into the application of steam power, by the manufacturers of Pittsburg, induced the Board to contract for a steam engine of one hundred horse power, which, it is calculated, will be put into complete operation for about 5,000 dollars, independently of the cost of the wooden frame which is to be placed over it. This engine, with a pump of twenty inches, will raise an additional supply of water, in twenty-four hours, of 670,000 cubic feet. The aggregate

supply, from the various sources, will then be three hundred and seven locks full per day, which, however, should it be required, may, by the erection of another water wheel, as originally contemplated, or by other expedients, be at any time greatly increased. It is true, that the means by which a part of the water is to be obtained, may in this country appear somewhat novel; but if we turn our eyes to Great Britain, a country in which similar improvements have been carried to the greatest extent, we shall find some of her most valuable canals supplied by steam power; such is the fact with the old Birmingham, the Barnsley, the Grand junction, and many other canals of minor importance. In the present instance, while the simplicity and cheapness of the machine itself, will give us a decided advantage in its application, the expense of keeping it in motion will be very much reduced, by the use of the anthracite coal as a fuel. From the experience obtained at the Phoenix works, belonging to Messrs. I. & G. Thompson, on French creek, it has been ascertained, that one ton of this coal will keep an engine of one hundred horse power in operation ten hours, and hence it follows, that three tons will fully suffice for twenty-four hours. Should the feeder be extended up the Swatara, it is believed that this article may be supplied at the engine house for two dollars per ton, making for three tons per day, - - - \$6 00  
 3 men to attend the engine, average wages \$1,50 each, 4 50  
 packing and repairs per day, - - - 1 00

---

\$ 11 50

---

In the Report of 1824, the Board adverted to the practicability of passing two of the boats of the Union Canal, carrying from twenty to twenty-five tons each, through the locks on the Schuylkill. This advantage will be equally enjoyed on the State Canal, now constructing from the termination of the Union Canal at Middletown, to a point opposite the Juniata, from whence surveys are making, with a view, ultimately, of connecting the eastern section with the western; also in progress along the Alleghany river, above the city of Pittsburg. From what is now doing, very considerable advantages will be derived; but the vast accession of tonnage to the Union Canal Company, to be expected from the completion of the Pennsylvania Canal, is a just theme of congratulation. Internal improvement has struck its roots deep, and the great State work, happily commenced under the auspices of the government and the people, is now demanded alike by public honour and by the public interests, and the wisdom of the legislature will ensure its rapid execution. It will extend to the growing empires of the west, and be a channel of conveyance for the cotton, tobacco, and other products of the new states; and its ramifications will every where improve the natural capacities of our own state for production and commerce. It requires no spirit of prophecy to foretel, that an extensive trade, from this source, will be poured into, and will enrich the Union Canal: the tonnage of which will be limited only by its capacity for transportation. The most ample reward to the stockholders, and the most sanguine expectations of utility to the public, cannot therefore fail to be realized. Indeed, the Board will venture to remark, that



no matter how numerous the canals may hereafter be, from the Susquehanna to Philadelphia, and particularly from the point of the Union Canal, where it intersects the Schuylkill, before the lapse of many years, there will be full employment for all.

It may not be uninteresting to state, that it will be competent to the Company, at any time hereafter, to enlarge the capacity of the canal, without interruption to the trade, by raising the banks and locks one foot. The depth of water will then be five feet, and single boats, of forty tons each, may navigate with great facility the Union Canal.

The Board cannot avoid noticing the pleasing fact, that although the canal passes through three counties, not a single outrage was committed upon any part of the line during the past season. The correction of an evil which before had existed to an alarming extent, and which retarded the progress of the work, may be ascribed in part to the prudence and good management of the officers and agents upon the line, and to the increased intelligence of the inhabitants upon the subject of canals, and also to the wisdom of the recent act of the legislature for the protection of public works.

On reference to the last Annual Report, it will be found, that a part of the loan of 550,000 dollars, determined upon by the Board, had been subscribed. The balance has been since procured by subscriptions, at a small premium, from time to time, as the state of our finances required.

Messrs. John Bohlen, Jacob Ridgway, and Joseph Watson, (mayor) having assented to act as trustees for the holders of the loan; a transfer in trust has been made to

them, of the accumulated cash and stock, which form, together with the avails of the Lottery grant and other property, as per specification of 24th of March 1825, the security pledged for the payment of the interest, and repayment of the principal of said loan.

As the work has approached its completion, the Board have been enabled to calculate with greater accuracy than formerly, its probable cost. In August last, it was ascertained, by estimates carefully and liberally made, that a further sum of about 280,400 dollars would be required, in order to carry into execution those improvements in the location of the line which were considered as rendering the canal a more extensive and perfect work, and to finish the whole in the most substantial and durable manner. A loan for this amount was therefore determined upon, of which the sum of 205,400 dollars has been taken, leaving the balance of 75,000 dollars yet to be subscribed, whenever the same may be required.

Since the report of last year, an additional sum of \$9518 94 cents has been paid as damages to the proprietors of land, and water powers.

The treasurer's account, showing the sum of \$10,934 29 cents to be the balance of cash in his hands on the 1st inst. is herewith submitted.

In conclusion, the Board will repeat their firm belief, that the important work intrusted to their management, will be presented to the public in the course of the ensuing spring, in full completion, from the head of the Girard Canal below Reading, to the great basin of the State Canal on the Susquehanna, and they trust it will be found not only useful in its design, but economical, solid,

and beautiful in its execution ; and that as it will be the most important link in the chain which is to connect the eastern and western waters, it will ever be regarded as among the noblest monuments of genius and patriotism of which our country can boast.

All which is respectfully submitted.

By order of the Board of Managers.

SAMUEL MIFFLIN, *President.*

*Philadelphia, Nov. 21, 1826.*

DR.

*Union Canal Company in account with Thomas P. Roberts, Treasurer.*

CR.

|       |   | Dolls.  | Cts. |       | Dolls.  | Cts.       |
|-------|---|---------|------|-------|---|------------|
| 1825. | To cash paid by order of the Board of Managers, from November 1, 1825, to February 1, 1826, - - - - | 127,671 | 32   | 1825. | By balance, as per settlement of the Committee of Accounts, November 1, 1825, - - - - - | 8,406 24   |
| 1826. | To cash paid by order of ditto, from February 1, to May 1, - - - -                                  | 101,771 | 39   |       | By cash received, from November 1, 1825, to February 1, 1826, - - - -                   | 121,760 12 |
|       | To cash paid by order of ditto, from May 1, to August 1, - - - -                                    | 235,740 | 72   | 1826. | By cash received, from February 1, to May 1, - - - - -                                  | 101,650 72 |
|       | To cash paid by order of ditto, from August 1, to November 1, - - - -                               | 291,213 | 62   |       | By cash received, from May 1, to August 1, - - - - -                                    | 238,002 59 |
|       |   |         |      |       | By cash received, from August 1, to November 1, - - - - -                               | 297,511 67 |
|       | Balance, - - - - -  | 10,934  | 29   |       |   | 767,331 34 |
|       |   |         |      |       | By balance, November 1, - - - -   | 10,934 29  |

E. E.

THOMAS P. ROBERTS, *Treasurer.*

*Philadelphia, Nov. 1, 1826.*

Examined and compared with entries, and found correct.

WM. BOYD,  
JACOB GRATZ, } Committee of Accounts.  
J. C. STOCKER, }